

Claims

1. A solid ingredient A produced by heating activated carbon, kaolin, copper sulfide and phosphoric acid (H_3PO_4) to a temperature ranging from 1,000 to 1,200°C.

2. The solid ingredient A according to claim 1, wherein said activated carbon is in an amount of 25 to 70 parts by weight and kaolin, copper sulfide and phosphoric acid are added in amounts varying depending on the amount of activated carbon.

3. The solid ingredient A according to claim 2, wherein 3 to 20 parts by weight of kaolin, 4 to 20 parts by weight of copper sulfide and 55 to 110 parts by weight of phosphoric acid are added based on 40 parts by weight of activated carbon and heated.

4. The solid ingredient A according to any one of claims 1 to 3, wherein diatomaceous earth is added in place of kaolin.

5. The solid ingredient A according to any one of claims 1 to 3, wherein said activated carbon, kaolin, copper sulfide and phosphoric acid are mixed together and left for a predetermined period of time before being heated.

6. The solid ingredient A according to any one of claims 1 to 3, wherein said activated carbon, kaolin, copper sulfide and phosphoric acid are heated in the substantial absence of oxygen.

7. A liquid ingredient B produced by mixing a solid ingredient A

with silicon powder and water and heating the mixture.

8. The liquid ingredient B according to claim 7, wherein 5 to 35 parts by weight of silicon powder and 300 to 850 parts by weight of water are added based on 30 parts by weight of said solid ingredient A.

9. The liquid ingredient B according to claim 7 or 8, wherein said solid ingredient A, silicon powder and water are heated at a temperature ranging from 90 to 110°C.

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10. A liquid heating element produced by mixing a liquid ingredient B with ethylene glycol, leaving the mixture for a predetermined period of time and filtering the mixture.

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11. The liquid heating element according to claim 10, wherein 30 to 50 parts by weight of ethylene glycol is added based on 650 parts by weight of the liquid ingredient B.

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12. The liquid heating element according to claim 10 or 11, wherein said mixture of the liquid ingredient B with ethylene glycol is left for 15 to 30 hours.

13. A method for producing a liquid heating element, which comprises the steps of:
preparing a solid ingredient A from activated carbon, kaolin, copper sulfide and phosphoric acid (H_3PO_4);
preparing a liquid ingredient B from the solid ingredient A, silicon powder and water;

mixing the liquid ingredient B with ethylene glycol in a predetermined ratio and leaving the mixture for a predetermined period of time; and filtering the mixture.

5 14. The method according to claim 13, wherein said step of preparing the solid ingredient A includes:

 heating the activated carbon, kaolin, copper sulfide and phosphoric acid (H_3PO_4) to a temperature ranging from 1,000 to 1,200°C; and grinding a solid obtained during the heating step.

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 15. The method according to claim 14, wherein said step of preparing the solid ingredient A further includes leaving the activated carbon, kaolin, copper sulfide and phosphoric acid before heating.

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 16. The method according to any one of claims 13 to 15, wherein said step of preparing the solid ingredient A uses diatomaceous earth in place of kaolin.

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 17. The method according to claim 14 or 15, wherein said activated carbon is added in an amount of 25 to 70 parts by weight and Kaolin, copper sulfide and phosphoric acid are added in amounts varying depending on the amount of activated carbon.

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 18. The method according to claim 14 or 15, wherein 3 to 20 parts by weight of kaolin, 4 to 20 parts by weight of copper sulfide and 55 to 110 parts by weight of phosphoric acid are added based on 40 parts by weight of said activated carbon.

19. The method according to claim 14, wherein said activated carbon, kaolin, copper sulfide and phosphoric acid are heated in the substantial absence of oxygen.

5 20. The method according to claim 14, wherein said grinding step grinds a solid obtained during the heating step into particles of less than 10 μ m.

21. The method according to claim 13, wherein said step of preparing the liquid ingredient B includes mixing the solid ingredient A with silicon powder and water and heating the mixture.

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22. The method according to claim 21, wherein 5 to 35 parts by weight of silicon powder and 300 to 850 parts by weight of water are added based on 30 parts by weight of said solid ingredient A.

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23. The method according to claim 21, wherein said solid ingredient A with silicon powder and water are heated at a temperature ranging from 90 to 110°C.

24. The method according to claim 13, wherein said step of leaving the mixture of the liquid ingredient B with ethylene glycol includes adding 30 to 50 parts by weight of ethylene glycol based on 650 parts by weight of the liquid ingredient B.

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25. The method according to claim 13, wherein said step of leaving the mixture of the liquid ingredient B with ethylene glycol lets the mixture be left for 15 to 30 hours.

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26. A liquid heating element produced by any of the methods according to claims 13 to 25.

27. A heat management method using a liquid heating element
5 produced by any of the methods according to claims 13 to 25.

28. A heat management system using a liquid heating element produced by any of the methods according to claims 13 to 25.